

**METHOD AND APPARATUS FOR IMPROVING PERCEIVED SIGNAL QUALITY
OF TRANSMITTED INFORMATION IN A FULL DUPLEX WIRELESS
COMMUNICATION SYSTEM**

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ABSTRACT OF THE DISCLOSURE

10 A full duplex wireless communication system (100) employs a method for improving perceived signal quality of transmitted information within the system. The wireless communication system includes fixed infrastructure equipment and one or more wireless communication devices (101). The fixed infrastructure equipment includes at least a transcoder (201), a router (203) and a base transceiver site (BTS, 103). The router is operably coupled between the transcoder and the BTS, and supports a non-deterministic packetized transport for communicating information between the transcoder and the BTS as information packets. To reduce delays of information packets communicated between the transcoder and the BTS, and thereby improve the perceived quality of communications that include such information packets, the transcoder, router and BTS employ a unique synchronization-based priority scheme for communicating information packets from the transcoder to the BTS. In accordance with the priority scheme, an indication of the status of synchronization between the transcoder and the BTS is included in an information packet to guide the router's processing of the packet. The router examines the priority and either stores the packet or communicates the packet to the BTS. In the event that the router stores the packet, the router preferably inserts a time-delay indication into a portion of the packet to inform the BTS of how long the packet was stored. The BTS uses the time-delay indication to determine a desired transcoder transmission time for a subsequent packet of the same communication, and communicates an indication of the desired transcoder transmission time to the transcoder.

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